

Missouri Department of Natural Resources



PUBLIC NOTICE

DRAFT MISSOURI STATE OPERATING PERMIT

DATE: August 13, 2004

In accordance with the state Clean Water Law, Chapter 644, RSMo, Clean Water Commission regulation 10 CSR 20-6.010, and the federal Clean Water Act, the applicants listed herein have applied for authorization to either discharge to waters of the state or to operate a no-discharge wastewater treatment facility. The proposed permits for these operations are consistent with applicable water quality standards, effluent standards and/or treatment requirements or suitable timetables to meet these requirements (see 10 CSR 20-7.015 and 7.031). All permits will be issued for a period of five years, unless noted otherwise in the Public Notice for that discharge.

On the basis of preliminary staff review and the application of applicable standards and regulations, the Missouri Department of Natural Resources (MDNR), as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions. The proposed determinations are tentative pending public comment.

Persons wishing to comment on the proposed permit conditions are invited to submit them in writing to the Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102, ATTN: Peter Goode, Professional Engineer. Please include the permit number in all comment letters.

Comments should be confined to the issues relating to the proposed action and permit(s) and the effect on water quality. The MDNR may not consider as relevant comments or objections to a permit based on issues outside the authority of the Clean Water Commission, (see Curd v. Mo. Clean Water Commission, 586 S.W.2d 58 Mo. App. 1979).

All comments must be postmarked by September 13, 2004 or received in our office by 5:00 p.m. on September 16, 2004. The requirement of a signed document makes it impossible to accept email comments for consideration at this time. Comments will be considered in the formulation of all final determinations regarding the applications. If response to this notice indicates significant public interest, a public meeting or hearing may be held after due notice for the purpose of receiving public comment on the proposed permit or determination. Public hearings and/or issuance of the permit will be conducted or processed according to 10 CSR 20-6.020.

Copies of all draft permits and other information including copies of applicable regulations are available for inspection and copying at DNR's website, <http://www.dnr.state.mo.us/wpscd/wpcp/homewpcp.htm>, or at the Department of Natural Resources, Water Protection Program, 205 Jefferson Street, P.O. Box 176, Jefferson City, Missouri 65102, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Public Notice Date: August 13, 2004

Permit Number: MO-0130591

Southwest Regional Office

FACILITY NAME AND ADDRESS	NAME AND ADDRESS OF OWNER
Sunny Slope Country Club Sewer District WWTF, Camdenton, MO 65020	Camden County Commission, #1 Court Circle, Suite 1, Camdenton, MO 65020
RECEIVING STREAM & LEGAL DESCRIPTION	TYPE OF DISCHARGE
Lake of the Ozarks, Sec. 34, T38N, R17W, Camden County	Domestic, new

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0130591

Owner: Camden County Commission
Address: #1 Court Circle, Suite 1, Camdenton, MO 65020

Continuing Authority: Same as above
Address: Same as above

Facility Name: Sunny Slope Country Club Sewer District WWTF
Facility Address: Camdenton, MO 65020

Legal Description: SW $\frac{1}{4}$, NW $\frac{1}{4}$, SW $\frac{1}{4}$, Sec. 34, T38N, R17W, Camden County

Receiving Stream: Lake of the Ozarks (L2)
First Classified Stream and ID: Lake of the Ozarks (L2) (07205)
USGS Basin & Sub-watershed No.: (10290110-030009)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 - POTW - SIC #4952
Septic tank/recirculating filter/seasonal chlorination/dechlorination/sludge disposal by contract hauler.
Design population equivalent is 1348.
Design flow is 0.162 million gallons per day.
Design sludge production is 9.7 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

Effective Date

Stephen M. Mahfood, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

Expiration Date
MO 780-0041 (10-93)

Director of Staff, Clean Water Commission

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 2 of 4	
					PERMIT NUMBER MO-0130591	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u>						
Flow	MGD	*		*	once/week	24 hr. estimate
Biochemical Oxygen Demand ₅ **	mg/L		30	20	once/month	grab
Total Suspended Solids**	mg/L		30	20	once/month	grab
pH - Units	SU	***		***	once/month	grab
Fecal Coliform****	#/100mL	1000		400	once/month	grab
Total Residual Chlorine (Note 1)	mg/L	0.01		0.01	once/month	grab
Ammonia as N (May 1 - Oct 31)	mg/L	5.3		2.6	once/month	grab
(Nov 1 - April 30)		9.6		4.8		
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE _____. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

MO 780-0010 (8/91)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** This facility is required to meet a removal efficiency of 85% or more.
- *** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
- **** Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31.

Note 1 - This permit contains a Total Residual Chlorine (TRC) limit.

- a. If the TRC limit in this permit is 0.01 mg/L or 0.2 mg/L, you must use an analytical method that has a quantification limit of no greater than 0.05 mg/L TRC. For reporting purposes on the discharge monitoring report (DMR), all analytical values below 0.05 mg/L shall be reported as "<quantlim." All analytical values at or above the quantification limit of 0.05 mg/L shall be reported as the measured value. The permittee shall report the quantification limit in the remarks section of the DMR.

The average monthly effluent values for TRC will be determined by assuming that analytical results below the quantification limit are equivalent to 0 mg/L when calculating the monthly average.

The daily effluent value will be considered equal to 0 mg/L if it is below the quantification limit.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 1 - Total Residual Chlorine (continued)

- b. If the TRC limit in this permit is 1.0 mg/L; you must use an analytical method with a quantification limit between 0.2 and 0.5 mg/L. All analytical values below the quantification limit shall be reported as "<quantlim." All analytical values at or above the quantification limit shall be reported as the measured value.

The average monthly effluent values for TRC will be determined by assuming that analytical results below the quantification limit are equivalent to 0 mg/L when calculating the monthly average.

The daily effluent value will be considered equal to 0 mg/L if it is below the quantification limit.

- c. Disinfection is required year-round unless the permit specifically states that "Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31." If your permit does not require disinfection during the non-recreational months, do not chlorinate in those months.
- d. Do not chemically dechlorinate if it is not needed to meet the limits in your permit.
- e. If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as "0 mg/L" TRC.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
- (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.

B. SPECIAL CONDITIONS (cont.)

4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

5. Report as no-discharge when a discharge does not occur during the report period.

6. Water Quality Standards

- (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities

- (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
- (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

Date of Fact Sheet: August 12, 2004

Date of Public Notice: August 13, 2004

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
FACT SHEET

This Fact Sheet explains the applicable regulations, rationale for development of this permit and the public participation process.

NPDES PERMIT NUMBER: MO-0130591

FACILITY NAME: Sunny Slope Country Club Sewer District WWTF

OWNER NAME: Camden County Commission

LOCATION: Sec. 34 T38N R17W County: Camden

RECEIVING STREAM: Lake of the Ozarks

FACILITY CONTACT PERSON: Carolyn Lorraine TELEPHONE: (573) 346-4440

FACILITY DESCRIPTION AND RATIONALE

The County of Camden has applied for a discharge permit for a septic tank and recirculating filter with chlorination and dechlorination. The design flow is 0.162 million gallons per day (MGD).

Effluent limitations are in accordance with the attached Water Quality Review Sheet.

This permit will be issued for a period of five years.



Missouri Department of Natural Resources
Water Protection Program
Water Pollution Control Branch
NPDES Permits & Engineering Section

Water Quality Review Sheet
Determination of Effluent Limits

Facility Information

FACILITY NAME: Camden Co. Sunny Slope Country Club NPDES #: N/A

FACILITY TYPE/DESCRIPTION: Proposed 0.162 MGD recirculating sand filter plant with chlorine disinfection.

ECOREGION: Ozark Highlands 8-DIGIT HUC: 10290110 COUNTY: Camden
Central Irregular Plains
Mississippi Alluvial Plains Ozark Highlands

LEGAL DESCRIPTION: SWNWSW Sec 34, T38N, R17W LATITUDE/LONGITUDE: +3759175/-09247344

WATER QUALITY HISTORY: New facility, no historical water quality data.

Outfall Characteristics

OUTFALL	FACILITY	DESIGN FLOW (CFS)	TREATMENT TYPE	RECEIVING WATERBODY
001	Sunny Slope Country Club Drive	0.25	Recirculating Sand Filter	Lake of the Ozarks

Receiving Waterbody Information

WATERBODY	CLASS	7Q10 (CFS)	*DESIGNATED USES	OTHER CHARACTERISTICS
Lake of the Ozarks	L2	N/A	AQL, LWV, WBC, BTG	WBID: 7205

*Cool Water Fishery (CLF), Cold Water Fishery (CDF), Irrigation (IRR), Industrial (IND), Boating & Canoeing (BTG), Drinking Water Supply (DWS), Whole Body Contact Recreation (WBC), Protection of Warmwater Aquatic Life and Human Health (AQL), Livestock & Wildlife Watering (LWW)

COMMENTS: Lake of the Ozarks is on the Missouri 2002 303(d) list for low dissolved oxygen, fish trauma, and gas supersaturation from Truman Dam. However, the proposed Sunny Slope Country Club Drive facility is far down-lake from the dam and should not add to the impairment.

MIXING CONSIDERATIONS

Mixing Zone (MZ). Not to exceed one-quarter (1/4) of the lake width at the discharge point or one hundred feet (100') from the discharge point, whichever is less. Cove near facility is 0.1 mile (528 ft) wide and one-quarter of this width equals 132 ft. Therefore, MZ = 100 feet [10 CSR 20-7.031(4) (A) 5.B. (IV) (a)].
Zone of Initial Dilution (ZID). Not allowed [10 CSR 20-7.031(4) (A) 5.B. (IV) (b)].

Permit Limits And Information

TMDL WATERSHED: ☒ Y W.L.A. STUDY CONDUCTED: ☒ N DISINFECTION REQUIRED: ☒ Y DISINFECTION WAIVER: ☒ NA
(Y OR N) (Y OR N) (Y OR N) (Y, N, NA)

OUTFALL# 001WET TEST (Y OR N): ☒ FREQUENCY: ONCE/YEAR A.E.C. 100% LIMIT: NO SIGNIFICANT MORTALITY

PARAMETER	UNITS	MAXIMUM DAILY LIMIT	WEEKLY AVERAGE LIMIT	AVERAGE MONTHLY LIMIT	MONITORING FREQUENCY
FLOW		*		*	DAILY
BIOCHEMICAL OXYGEN DEMAND (BOD ₅)	MG/L		30	20	ONCE/MONTH
TOTAL SUSPENDED SOLIDS	MG/L		30	20	ONCE/MONTH
PH	SU	6 - 9		6 - 9	ONCE/MONTH
AMMONIA AS N (MAY 1 - OCT 31)	MG/L	5.3		2.6	ONCE/MONTH
AMMONIA AS N (NOV 1 - APR 30)	MG/L	9.6		4.8	ONCE/MONTH
FECAL COLIFORM	NOTE 1	1000		400	ONCE/MONTH
TOTAL RESIDUAL CHLORINE	MG/L	0.01		0.01	ONCE/MONTH

NOTE 1 - COLONIES/100 ML, * - MONITORING REQUIREMENT ONLY

Receiving Water Monitoring Requirements

No receiving water monitoring requirements recommended at this time.

Derivation and Discussion of Limits

Wasteload allocations were calculated using water quality criteria and the dilution equation below:

$$C = \frac{(C_s * Q_s) + (C_e * Q_e)}{(Q_e + Q_s)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration

C_s = upstream concentrationQ_s = upstream flow (cfs)C_e = effluent concentrationQ_e = effluent flow (cfs)

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable acute water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

- **Biochemical Oxygen Demand (BOD₅)**. 20 mg/L monthly average, 30 mg/L weekly average [10 CSR 20-7.015(3) (B)1.].
- **Total Suspended Solids (TSS)**. 20 mg/L monthly average, 30 mg/L weekly average [10 CSR 20-7.015(3) (B)1.].
- **pH**. pH shall be maintained in the range from six to nine (6 - 9) standard units [10 CSR 20-7.015(3) (B)2.].
- **Ammonia as Nitrogen**. Ammonia criteria for waters designated as general warm-water fisheries apply [10 CSR 20-7.031, Table B]. Background ammonia as nitrogen for Lake of the Ozarks = 0.01 mg/L.

Effluent Volume = 21,600 ft³/day at 0.25 cfs

Mixing Zone: Length = 100 ft, Width = 100 ft, Depth = Approximately 5 ft
 Mixing Volume = 50,000 ft³

Season	Temp (°C)	pH (SU)	Total Ammonia CCC (mg/L)	Total Ammonia CMC (mg/L)
Summer	26	7.8	1.2	14.0
Winter	6	7.8	2.1	16.4

Summer: May 1 - October 31, Winter: November 1 - April 30

$$C_e = ((Q_e + Q_s)C - (Q_s * C_s))/Q_e$$

Summer

Ammonia as Nitrogen CCC = 1.2/1.2 = 1.0 mg/L
 Ammonia as Nitrogen CMC = 14.0/1.2 = 11.7 mg/L

$$WLA: C_e = ((21,600 + 50,000)1.0 - (50,000 * 0.01))/21,600$$

$$C_e = 3.3 \text{ mg/L}$$

$$LTA_c = 3.3 \text{ mg/L} (0.527) = 1.7 \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$MDL = 1.7 * 3.11 = 5.3 \text{ mg/L} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$AML = 1.7 * 1.55 = 2.6 \text{ mg/L} \quad [CV = 0.6, 95^{\text{th}} \text{ Percentile, } n = 4]$$

Winter

Ammonia as Nitrogen CCC = 2.1/1.2 = 1.8 mg/L
 Ammonia as Nitrogen CMC = 16.4/1.2 = 13.7 mg/L

$$WLA: C_e = ((21,600 + 50,000)1.8 - (50,000 * 0.01))/21,600$$

$$C_e = 5.9 \text{ mg/L}$$

$$LTA_c = 5.9 \text{ mg/L} (0.527) = 3.1 \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$MDL = 3.1 * 3.11 = 9.6 \text{ mg/L} \quad [CV = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$AML = 3.1 * 1.55 = 4.8 \text{ mg/L} \quad [CV = 0.6, 95^{\text{th}} \text{ Percentile, } n = 4]$$

Season	Maximum Daily Limit (mg/L)	Average Monthly Limit (mg/L)
Summer	5.3	2.6
Winter	9.6	4.8

- **Fecal Coliform**. 400 colonies/100 mL monthly average, 1000 colonies/100 mL daily maximum from April 1 - October 31 [10 CSR 20-7.015(3) (B)3.].
- **Total Residual Chlorine**. Total Residual Chlorine (TRC) effluent limits of 0.01 mg/L monthly average, 0.01 mg/L daily maximum, and standard compliance language are appropriate.

Reviewer: John Hoke

Date: 8/3/04

Unit Chief: Richard J. Laux

Monitoring and effluent limits contained within this document have been developed in accordance with EPA guidelines using the best available data and are believed to be consistent with Missouri's Water Quality Standards and Effluent Regulations. If additional water quality data or anecdotal information are available that may affect the recommended monitoring and effluent limits, please forward these data and information to the author.